

REMARKS

Discussion of Claim Amendments

Claims 1, 8, and 19 have been amended to expedite the prosecution of this application. New claims 20-22 are added and are directed to embodiments of the present invention. The amended and new claims are supported by the original claims and the specification. No new matter has been added.

The Office Action

The Office Action sets forth the following grounds for rejection: (1) claims 1-6, 8, 10-14, and 17-19 are rejected under 35 U.S.C. § 112, first and second paragraphs, for an alleged lack of support in the specification and indefiniteness; (2) claims 1, 8, and 17-19 are rejected under 35 U.S.C. § 102(e), as allegedly anticipated by U.S. patent 6,329,111 (Nojiri et al.); (3) claims 2-6 and 10-14 are rejected under 35 U.S.C. § 103(a), as allegedly unpatentable over Nojiri et al. in view of U.S. Patent 5,858,616 (Tanaka et al.); and (4) claims 1-6, 8, 10-14, and 17-19 are rejected under 35 U.S.C. § 103(a), as allegedly unpatentable over Tanaka et al. in view of U.S. Patent 5,922,395 (Koike et al.).

The Present Invention

The present invention relates to a process for forming a pattern of fluorescent substance into a cell for producing a fluorescent substance display device such as a plasma display panel. Claims 1-6, 8-14, and 17-22 are currently pending. A complete set of pending claims is attached.

Discussion of Rejections Under §112, First and Second Paragraphs

Applicant has amended claims 1, 8, and 19 to delete the term "non-photosensitive". Claims 2-6, 10-14, and 17-18 are dependent upon amended claim 1 or 8. In view of the foregoing, the rejections under § 112, first and second paragraphs should be withdrawn.

Discussion of Anticipation Rejection

Claims 1, 8, and 17-19 are rejected under 35 U.S.C. § 102(e), as allegedly anticipated by Nojiri et al. Although applicant disagrees with the rejection, applicant has amended claims 1, 8, and 19 to expedite the prosecution of this application. The term "comprises" has been replaced with --consists essentially of-- in claim 1. The presently claimed invention specifically excludes a photopolymerization initiator in the resin composition (A) layer. If a photopolymerization initiator is present in the resin composition (A) layer which also contains a fluorescent substance

(b), the initiator would materially affect the basic and novel characteristics of the presently claimed invention. For example, pattern defects would occur. See Declaration under 37 C.F.R. § 1.132. Similar amendments have been made also to claims 8 and 19. Nojiri et al. fails to disclose the presently claimed invention. Nojiri et al. discloses that a photopolymerization initiator is included in the layer that contains the fluorescent substance (phosphor). See column 10, lines 29-37. In view of the foregoing, the anticipation rejection should be withdrawn. Claims 20-22 also should not be rejected on this basis.

Discussion of Obviousness Rejections

Claims 2-6 and 10-14

These claims are rejected under 35 U.S.C. § 103(a), as allegedly unpatentable over Nojiri et al. in view of Tanaka et al.

Claims 2-6 are dependent upon claim 1. Claims 10-14 are dependent upon claim 8. Claims 1 and 8 have been amended as discussed. In view of the foregoing, applicant believes the rejection has been rendered moot. As discussed, Nojiri et al. fails to disclose a process wherein the resin composition (A) layer which contains a fluorescent substance does not include a photopolymerization initiator. Tanaka et al. fails to cure the deficiency of Nojiri et al. Tanaka et al. describes a photosensitive resin composition containing a phosphor and a photopolymerization initiator. See column 2, line 33. Further, Tanaka et al. fails to disclose or suggest to those of ordinary skill in the art a two layer structure as recited in the present claims.

Nojiri et al. and Tanaka et al., either alone or in combination, fail to suggest to those of ordinary skill in the art the presently claimed invention. There is simply no suggestion or pointer in either of the references to include the fluorescent substance (phosphor) in a layer which is free of a photopolymerization initiator. In addition, the presently claimed invention has an unexpected or superior property, e.g., free of pattern defects.

In view of all of the foregoing, the obviousness rejection of claims 2-6 and 10-14 should be withdrawn. Claims 20-22 also should not be rejected on this basis.

Claims 1-6, 8, 10-14, and 17-19

These claims are rejected under 35 U.S.C. § 103(a), as allegedly unpatentable over Tanaka et al. in view of Koike et al.

As discussed, Tanaka et al. fails to disclose or suggest to those of ordinary skill in the art a resin composition containing a fluorescent material which is free of a photopolymerization initiator. Koike et al. fails to cure the deficiency of Tanaka et al. Even if Tanaka et al. and Koike et al. are combined, the combination does not suggest to those of ordinary skill in the art

In re Appln. of HIROAKI SATOH
Application No. 09/271,447

the presently claimed invention. Further, the presently claimed invention has an unexpected or superior property, e.g., free of pattern defects.

In view of the foregoing, the obviousness rejection of claims 1-6, 8, 10-14, and 17-19 should be withdrawn. Claims 20-22 also should not be rejected on this basis.

Conclusion

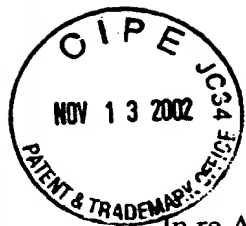
The application is considered in good and proper form for allowance. If, in the opinion of the Examiner, a telephone conference would expedite the prosecution of the subject application, the Examiner is invited to call the undersigned attorney.

Respectfully submitted,



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RESPONSE UNDER 37 CFR 1.116
EXPEDITED PROCEDURE
EXAMINING GROUP 1762
PATENT

Attorney Docket No. 400113/ASAHINA

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:

HIROAKI SATOH

Application No. 09/271,447

Art Unit: 1762

Filed: March 18, 1999

Examiner: M. Cleveland

For: PROCESS FOR FORMING A PATTERN
OF FLUORESCENT SUBSTRATE AND
PLASMA DISPLAY PANEL

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AMENDMENTS TO CLAIMS MADE IN RESPONSE
TO OFFICE ACTION DATED AUGUST 13, 2002

Amendments to existing claims:

1. (Three Times Amended) A process for forming a pattern of fluorescent substance into the cell of a fluorescent substance display substrate comprising providing inside the cell two separate layers which are (i) a ~~non-photosensitive~~ resin composition (A) layer and (ii) a photosensitive resin composition (B) layer, exposing the layers to light, developing the exposed layers, and baking the developed layers; wherein the resin composition (A) layer ~~comprises~~ consists essentially of an acrylic polymer (a) having a weight average molecular weight of 10000 to 300000 and an acid number of 80 to 250 mgKOH/g and a fluorescent substance (b), and the resin composition (A) layer is disposed between the inside of the cell and the photosensitive resin composition (B) layer.

8. (Twice Amended) A process for forming a pattern of fluorescent substance into the cell of a fluorescent substance display substrate, wherein a ~~non-photosensitive~~ resin composition (A) layer, ~~comprising~~ consisting essentially of an acrylic polymer (a) having a weight average molecular weight of 10000 to 300000 and an acid number of 80 to 250 mgKOH/g and a fluorescent substance (b), and a photosensitive resin composition (B) layer are formed inside the cell, and then they are exposed, developed and baked, wherein the photosensitive resin composition (B) layer is formed in the cell after the resin composition (A) layer is formed.

19. (Twice Amended) A process for forming a pattern of fluorescent substance into the cell of a fluorescent substance display substrate comprising providing inside the cell two separate layers which are (i) a ~~non-photosensitive~~ resin composition (A) layer and (ii) a photosensitive resin composition (B) layer, wherein the resin composition (A) layer, ~~comprising~~ consisting essentially of an acrylic polymer (a) having a weight average molecular weight of 10000 to 300000 and an acid number of 80 to 250 mgKOH/g and a fluorescent substance (b), and the photosensitive resin composition (B) layer are formed inside the cell, and then they are exposed, developed and baked, wherein the photosensitive resin composition (B) layer is formed in the cell after the resin composition (A) layer is formed.